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Indian Standard

METHOD FOR DETERMINATION OF SCOURING LOSS IN SILK TEXTILE MATERIALS

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METHOD FOR DETERMINATION OF SCOURING LOSS IN SILK TEXTILE MATERIALS

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Indian Standard
METHOD FOR DETERMINATION OF SCOURING LOSS IN SILK TEXTILE MATERIALS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 27 May 1968, after the draft finalized by the Chemical Methods of Tests Sectional Committee had been approved by the Textile Division Council.

0.2 Raw silk contains, besides sericin, some traces of fat and mineral matter. Silk may be used in raw state, and afterwards either boiled off or not, according to the purpose for which it is intended. The silk gum and other impurities are generally removed from the silk textile materials by the process of boiling. Silk textiles are boiled off by passing them through heated soap liquor and hot water. Formulation of standard method of test for determining the quantity of sericin and other extraneous matter present in the material is, therefore, necessary. The method of test prescribed in this standard will be used as an aid in the determination of scouring loss of silk textile materials.

0.3 In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

1. SCOPE

1.1 This standard prescribes a method for determining the scouring loss in silk textile materials.

1.1.1 The method prescribed in this standard is generally applicable to silk textiles wherein only sericin and other extraneous matter which would normally be removed during the scouring or boiling process.

2. PRINCIPLE

2.1 A known amount of sample is scoured with mild soap and soda solution. The loss in weight is determined and expressed as a percentage of the dry weight of the sample.

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*Rules for rounding off numerical values (*revised*).

3. SAMPLING

3.1 Sampling for Yarn

3.1.1 *Lot* (*Yarn*) — The quantity of yarn from the same source shall constitute the *lot*. If the lot contains more than 200 kg of yarn, it shall be divided into sub-lots, each weighing 200 kg or less.

3.1.2 Unless otherwise agreed to between the buyer and the seller, 15 increments each approximately weighing 10 g shall be taken from different parts of a sub-lot so that a representative sample is obtained. All the increments thus collected shall be thoroughly mixed. This shall constitute the *test sample*.

3.2 Sampling for Fabrics

3.2.1 *Lot* (*Fabric*) — The quantity of fabric manufactured essentially under uniform conditions shall constitute a *lot*.

3.2.2 Unless otherwise agreed to between the buyer and the seller the number of pieces to be selected from a lot shall be as given below. The pieces thus selected shall constitute the *gross sample*:

Lot Size	*Sample Size*
Up to 100	3
101 ,, 300	4
301 ,, 500	5
501 and above	7

3.2.3 From each piece in the gross sample about 25 g of fabric shall be taken out from at least 2 different parts. The parts shall then be cut into further smaller pieces and thoroughly mixed. The pieces thus collected shall constitute the *test sample*.

4. PREPARATION OF TEST SPECIMENS

4.1 From the test sample, draw at least 2 test specimens each weighing about 5 g.

5. ATMOSPHERIC CONDITIONS

5.1 The test shall be conducted in prevailing atmospheric conditions.

NOTE — Since the dry weights are determined, it is not necessary to condition the sample.

6. APPARATUS

6.1 Air-Oven — capable of maintaining a temperature of 105° to 110°C.

6.2 Weighing Bottle — with a stopper.

7. REAGENTS

7.0 Quality of Reagents — Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (*see* IS : 1070-1960*) shall be used where the use of water as reagent is intended.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the test results.

7.1 Sodium Carbonate Solution — 1 percent (*w/v*).

7.2 Soap Solution — 1 percent solution (*w/v*) of neutral soap.

NOTE — Olive oil soap is suitable for this test.

8. PROCEDURE

8.1 Take a test specimen. Transfer it to a tared weighing bottle. Dry the specimen at 105° to 110°C to constant weight (about 2 hours drying is sufficient) (*see* Note). Determine the oven-dry weight of the test specimen.

NOTE — The consecutive weights taken at an interval of 30 minutes of drying should not differ by more than 2 mg.

8.2 Take the dried test specimen in a beaker. Boil it gently (*see* Note 1) for 1 hour with 150 ml of soap solution (*see* Note 2). Squeeze the test specimen and transfer it to a beaker containing 150 ml of sodium carbonate solution and boil for half an hour (*see* Notes 1 *and* 2). Take out the test specimen, wash it thoroughly with hot water and dry it in the tared weighing bottle to constant weight (about 2 hours drying is sufficient) in the oven. Determine the oven-dry weight of the test specimen.

NOTE 1 — For very fine quality of silk, the temperature of the soap or soda solution should be 80°C.

NOTE 2 — The material to liquor ratio should be 1 : 30.

8.3 Calculate the percentage of scouring loss by the following formula:

$$S = \frac{(W_1 - W_2) \times 100}{W_1}$$

where

S = scouring loss, in percent, by weight on oven-dry basis;

W_1 = oven-dry weight, in g, of the specimen before scouring; and

W_2 = oven-dry weight, in g, of the specimen after scouring.

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*Specification for water, distilled quality (*revised*).

8.4 Repeat the procedure given in **8.1** and **8.2** with the remaining test specimen(s) and calculate the percentage of scouring loss by the formula given as in **8.3**.

8.5 Calculate the average of the values obtained as in **8.3** and **8.4**.

9. REPORT

9.1 Report the value obtained as in **8.5** as the scouring loss in percent, of the test sample.

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